

CHARGE PUMP CIRCUIT TO OPERATE
CONTROL CIRCUIT

ABSTRACT OF THE DISCLOSURE

[0026] In accordance with one aspect of the present application a ballast for operating a lamp includes an inverter circuit configured to generate a control signal. A resonant circuit is configured for operational coupling to the inverter circuit and to the lamp to generate resonant voltage in response to receiving the control signal from the inverter circuit. A clamping circuit is operationally coupled to the resonant circuit to limit the voltage across the resonant circuit. A multiplier circuit is operationally coupled to the resonant circuit to boost the voltage clamped by the clamping circuit to a value sufficient to permit starting of the lamp. A pulsing circuit includes a power controller to pulse the inverter “ON” and “OFF,” and a charge pump circuit to operate the power controller. The charge pump circuit is operationally coupled to the clamping circuit to derive electrical power from the clamping circuit.